18. $\int \frac{\cos^3 x\,dx}{\sin^2 x} =$

1. $\sin x - \cos x + c$ 3. $\sin x + \operatorname{cosec} x + c$ 5. $-\sin x - \operatorname{cosec} x + c$
2. $-\sin x - \cos x + c$ 4. $\sin x - \operatorname{cosec} x + c$ (M. 79)

19. $\ln a = (a \in \mathbf{R}_0^+)$

1. $\int_a^e \frac{dt}{t}$ 2. $\int_0^1 \frac{dt}{t}$ 3. $\int_0^e \frac{dt}{t}$ 4. $\int_0^a \frac{dt}{t}$ 5. $\int_1^a \frac{dt}{t}$ (B. 79)

20. $\int_0^{\sqrt{e}} \frac{x^2\,dx}{x^3+e} =$

1. 1/3 2. $\ln \sqrt[3]{2}$ 3. $1/3(\ln 2 + 1)$ 4. $\ln 2$ 5. $-\infty$

21. L'aire de la surface comprise entre la courbe d'équation $y = x^3$ l'axe des y et la droite $y = 1$ vaut :

1. 1/4 2. 2/3 3. $\pi/4$ 4. 1/3 5. 3/4 (B. 79)

22. $\int_0^4 e^{\sqrt{4}}\,dt =$

1. $4e^3 + 2$ 2. $e^2 + 1$ 3. $2(4e^2 + 1)$ 4. $e + 2$ 5. $2(e^2 + 1)$ (M.–79)

23. $\int_0^{2\pi} (1 - \cos x)^2\,dx =$ $(1 - 2\cos x + \cos^2 x)\,dx$

1. 3π 2. 2π 3. π 4. $3\pi/2$ 5. 4π (B. 80)

24. Si $\ln y = \frac{x}{y}$, alors $dy =$

1. $\frac{y}{x+y}dx$ 2. $y\,dx$ 3. $\frac{x+y}{x}dx$ 4. $e^{x/y}dx$ 5. $\frac{y}{x}dx$ (B. 80)

25. L'aire comprise entre la courbe $y = x \ln x$, l'axe 0x et la droite $x = e$ vaut :

1. $\frac{e^2}{4} + \frac{1}{4}$ 2. $\frac{e^2}{2}$ 3. $\frac{e^2}{4}$ 4. $\frac{1}{4}$ 5. $\frac{e^2}{4} - \frac{1}{4}$ (B. 80)